

REPORT TO THE
THE JOINT LEGISLATIVE HEALTH CARE
OVERSIGHT COMMITTEE
SENATE APPROPRIATIONS COMMITTEE
ON HEALTH AND HUMAN SERVICES
HOUSE OF REPRESENTATIVES APPROPRIATIONS
SUBCOMMITTEE ON HEALTH AND HUMAN SERVICES

ON
EFFECTS OF THE NORTH CAROLINA STATE LOTTERY ON
THE INCIDENCE OF GAMBLING ADDICTION

House Bill 1023, Session Law 2005-344 as amended by
Section 31.1 of Senate Bill 622 (S.L. 2005-276)

February 1, 2007

NORTH CAROLINA
DEPARTMENT OF HEALTH AND HUMAN SERVICES
DIVISION OF MENTAL HEALTH, DEVELOPMENTAL DISABILITIES AND
SUBSTANCE ABUSE SERVICES

Effects of the North Carolina State Lottery on the Incidence of Gambling Addiction

EXECUTIVE SUMMARY

The legislation (House Bill 1023) that established the North Carolina State Lottery included a provision that required the Department of Health and Human Services to study its impact on the incidence of gambling addiction in the state. This report presents findings on gambling behaviors among adult North Carolinians prior to the sale of the first lottery ticket on March 30, 2006 and provides the reference against which the incidence of gambling will be measured in the future.

The Division of Mental Health, Developmental Disabilities and Substance Abuse Services was delegated the responsibility for this study. The Division designed a study that would use a telephone survey to accomplish three research objectives: (1) to establish prevalence for gambling in the State prior to the release of the first lottery game; (2) to track changes in gambling behaviors over time to determine incidence, and (3) to identify demographic characteristics associated with gambling for targeted intervention. The North Carolina Behavioral Risk Factor Surveillance System (BRFSS) of the State Center for Health Statistics was selected to provide a cost-effective means of collecting data for the study.

A cooperative agreement between the Centers for Disease Control and Prevention and state public health departments, the BRFSS is a random telephone survey of adults that has been in use by the State since 1987 to provide estimates on the prevalence and incidence of health related behavior. The Division added questions on gambling to the 2005 NC BRFSS questionnaire that were first asked of North Carolina adults in December 2005 to establish gambling prevalence rates. The same questions have been included in the 2007 BRFSS for all months of the year to determine whether changes in gambling behavior have occurred subsequent to the state lottery.

This report, based on the analysis of data obtained from 1,367 interviewees prior to the sale of the first lottery ticket, constitutes the initial presentation of findings obtained from the Division's study of the impact of the State Lottery on gambling addiction in the State.

Highlights

- Highlights of the findings from the baseline survey include the following:
 - The prevalence for lifetime gambling (North Carolina residents who have ever played games for money, NC BRFSS, 2005) among adults from the general population in North Carolina is 50.3%, which corresponds to 3,356,460 individuals.
 - The prevalence for gambling in the past six months prior to the BRFSS interview among adults from the general population in North Carolina is 28.6%, which corresponds to 1,908,444 individuals.
 - The prevalence for problem gambling among adults from the general population in North Carolina is 2.1%, which corresponds to 140,131 individuals.

- Most (88%) of those who gambled in the past six months gambled only once for the period specified; 9% gambled at least once monthly; the remaining 5% gambled at least once a week.
- The majority of those who gambled in the past six months typically spent \$20 or less on the day that they played for money.
- Men gambled more than women (57.1% versus 43.4% for lifetime gambling; 58.1% versus 55.0% for gambling in the past six months).
- The prevalence of gambling declined with age (58.1% for the 18-24 age group versus 44.0% for the 65-74 age group for lifetime gambling; 60.5% for the 18-24 age group versus 51.7% for the 65 and older age group for gambling in the past six months)
- Whites gambled more than nonwhites (53.8% versus 41.0% for lifetime gambling; 59.3% versus 48.1% for gambling in the past six months).
- Those who did not graduate from high school or have a GED gambled less than those at higher educational levels (37.5% for those without a high school diploma or a GED versus 53.6% for college graduates for lifetime gambling; 48.4% for those without a high school diploma or GED versus 57.1% for college graduates for gambling in the past six months).
- North Carolinians with higher household incomes gambled more than those whose household incomes were lower (29.2% for those with household incomes of less than \$15,000 versus those with household incomes \$50,000 and over for lifetime gambling; 45.8% for those with household incomes of less than \$15,000 versus 59.3% for those with household incomes \$50,000 and over for gambling in the past six months).
- Lifetime gambling prevalence varied geographically; gambling was lowest among a cluster of counties in the northwest. Differences in gambling prevalence by county of residence will be the subject of future study.

Introduction

The General Assembly of North Carolina, in its 2005 Session, enacted House Bill 1023 to establish a state lottery. Known as the North Carolina State Lottery Act, the bill included a provision that required the Department of Health and Human Services to “*study the effects of the establishment and operation of the North Carolina State Lottery on the incidence of gambling addiction in this State.*”

The Division of Mental Health, Developmental Disabilities and Substance Abuse Services was delegated the responsibility for this study. The Division designed an investigation that would use a telephone survey to accomplish three research objectives: (1) to establish prevalence for gambling in the State prior to the release of the first lottery game; (2) to track changes in gambling behaviors over time to determine incidence; and (3) to identify demographic characteristics associated with gambling for targeted intervention. The North Carolina Behavioral Risk Factor Surveillance System (BRFSS) of the Centers for Disease Control and the State Center for Health Statistics provided a cost-effective means of collecting data for the study.

The BRFSS is a random telephone survey of adults that has been in use by the State since 1987 to provide estimates on the prevalence and incidence of health related behavior. The Division added questions on gambling to the 2005 NC BRFSS questionnaire that were first asked of North Carolina adults in December 2005 to establish gambling prevalence rates. The same questions will be asked in the 2007 BRFSS for all months of the year to determine whether changes in gambling behavior have occurred subsequent to the state lottery.

The Behavioral Risk Factor Surveillance System (BRFSS)

The BRFSS is a random telephone survey of adults that collects information on health, health behaviors, and utilization of health services in all months of the year. Established by the Centers for Disease Control and Prevention (CDC), the BRFSS is a cooperative agreement between the CDC and the departments of health of each participating state (www.cdc.gov/brfss; www.schs.state.nc.us/SCHS).

The system consists of three sections: (1) a core component of standard questions that are asked in all 50 states, the District of Columbia, Puerto Rico, Guam, and the U.S. Virgin Islands; (2) optional modules of standard questions on specific topics; and (3) state-added questions that are of particular relevance to individual states. Federal and state officials utilize BRFSS data to determine prevalence estimates for health risk behaviors.

Gambling questions were added to the 2005 NC BRFSS questionnaires and were asked of respondents in December 2005, prior to the start of the first lottery sales in the state, to establish a baseline for lifetime gambling, gambling in the past six months, and problem gambling. The same questions were included in the 2007 NC BRFSS to determine whether changes in gambling patterns occurred following the release of state lottery games in 2006. Data obtained through the 2007 and future BRFSS surveys will track trends in gambling behaviors among North Carolinians aged 18 years and older.

Data from the BRFSS are weighted to make them more representative of the general population. The characteristics of the sample of 1,367 who responded to the questions on gambling in December 2005 are similar to the full sample of 17,261 collected in all months of the entire year as shown in the Appendix 1. Results, however, should still be interpreted with caution because of the small sample sizes in many of the sub-groups, particularly for problem gambling and geographic distribution.

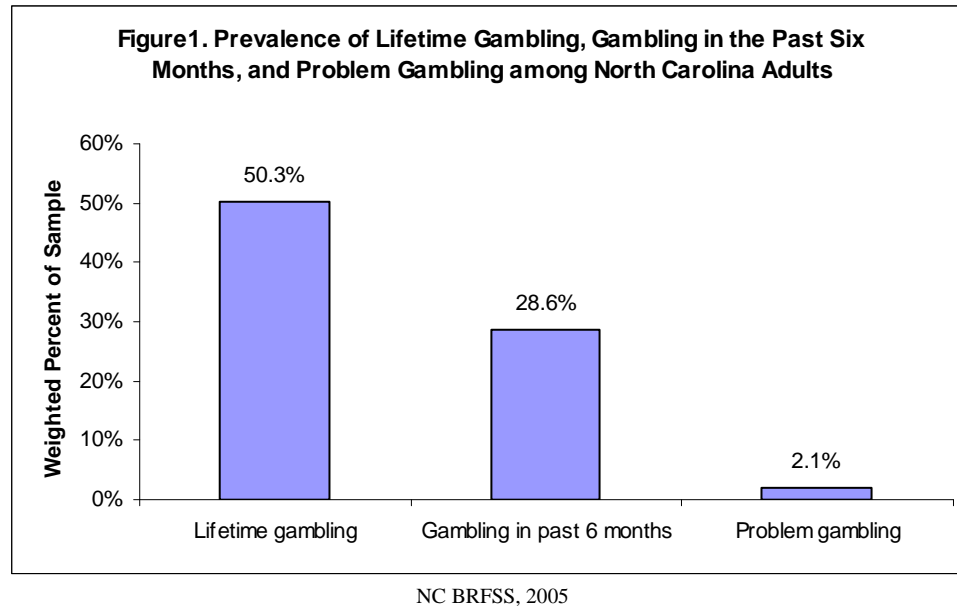
Results of the Survey

Analyses of the data from the 2005 survey were conducted to accomplish three objectives (1) to establish prevalence for lifetime gambling, gambling in the past six months and problem gambling at one period in time; (2) to track changes in gambling behaviors over time to determine incidence; and (3) to identify demographic characteristics associated with gambling behaviors for the purpose of planning targeted interventions. For this report, correlations were only performed for lifetime gambling and gambling in the past six months as the sample size for problem gambling was too small to generate meaningful results.

Total Population Estimates for Lifetime Gambling, Gambling in the Past Six Months, and Problem Gambling

Lifetime gambling prevalence refers to the percentage of the adult general population who have ever gambled. The calculation of the estimate in this report was based on weighted positive responses to a question that asked whether respondents had ever played games for money, including casino gambling, scratch card games, video poker, the lottery, riverboat gambling, sports betting, bingo, horse or dog racing, slot machines, and internet gambling. The prevalence for gambling in the past six months, or percentage of the general adult population who gambled in the specified period was based on a question that asked about the frequency of gambling in the past six months. The prevalence for problem gambling, or the percentage of the adult general population with a gambling problem, was based on a question that asked respondents whether they were gambling more than they thought they should. The questions on gambling that were added to the 2005 BRFSS questionnaire are found in Appendix 1. The full questionnaire for the 2005 BRFSS may be accessed at <http://www.schs.state.nc.us/SCHS/brfss/pdf/BRFSSQ05.pdf>.

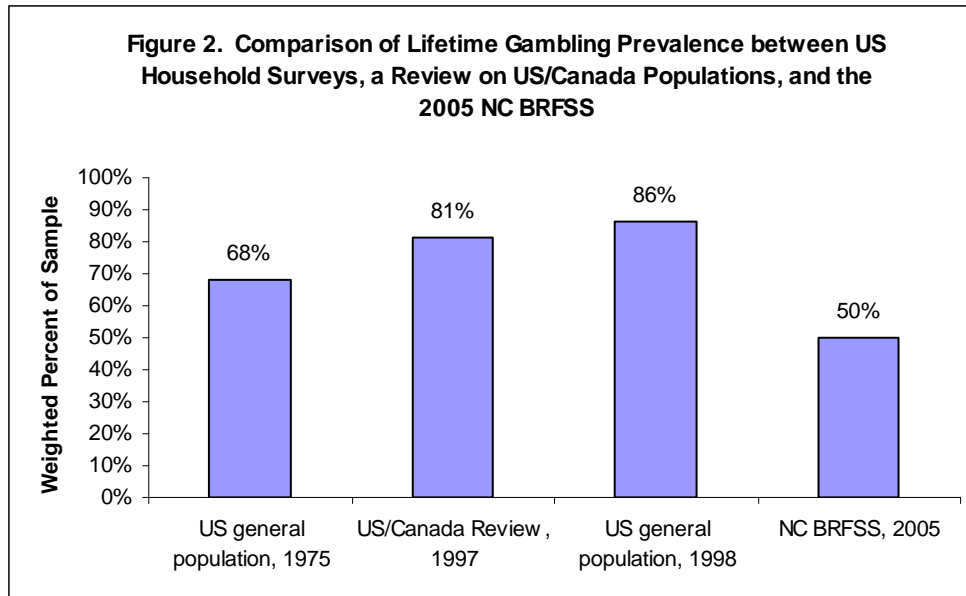
Prevalence estimates are shown on the next page in Figure 1. The lifetime prevalence among North Carolina adults for 2005 was 50.3%. The prevalence for gambling in the past six months was 28.6%. The prevalence for problem gambling was 2.1%. Based on the population 18 and older projected for North Carolina for 2006 (<http://demog.state.nc.us/>), the number of adult residents in the state who had ever gambled was 3,356,460; the number who gambled in the past six months was 1,908,444, and; the number who thought they were gambling more than they thought they should was 140,131 individuals.



Comparison between North Carolina Estimates, National Estimates, and a Review of US and Canada Gambling Studies

The prevalence for lifetime gambling among North Carolina adults in 2005 was much lower than estimates obtained from two major national surveys of the United States adult population and a review of gambling studies in the United States and Canada (Figure 2 as shown on the next page). The 1975 household survey of 1,749 adults conducted by the University of Michigan for the Commission on the Review of the National Policy toward Gambling found a prevalence rate of 68% (Kallick, Suits, Dielman, and Hybels, 1976). A review of 120 studies on gambling in the United States and Canada by the Harvard Medical School Division of Addictions estimated lifetime gambling to be around 81 % (Shaffer, Hall, and Vander Bilt, 1997). The household telephone survey of 2,417 adults conducted by the National Opinion Research Center (NORC) of the University of Chicago for the National Gambling Impact Study Commission estimated the national prevalence rate for gambling ever to be 86 % for 1998 (NORC, 1999).

The studies cited above included states where the lottery and other forms of legalized gambling had been in existence for some time and where a wide array of gambling opportunities were widely available and are therefore expected to be higher than the rate for the state. The estimates for North Carolina may be more comparable to non-lottery states where the prevalence for gambling are expected to be much lower.

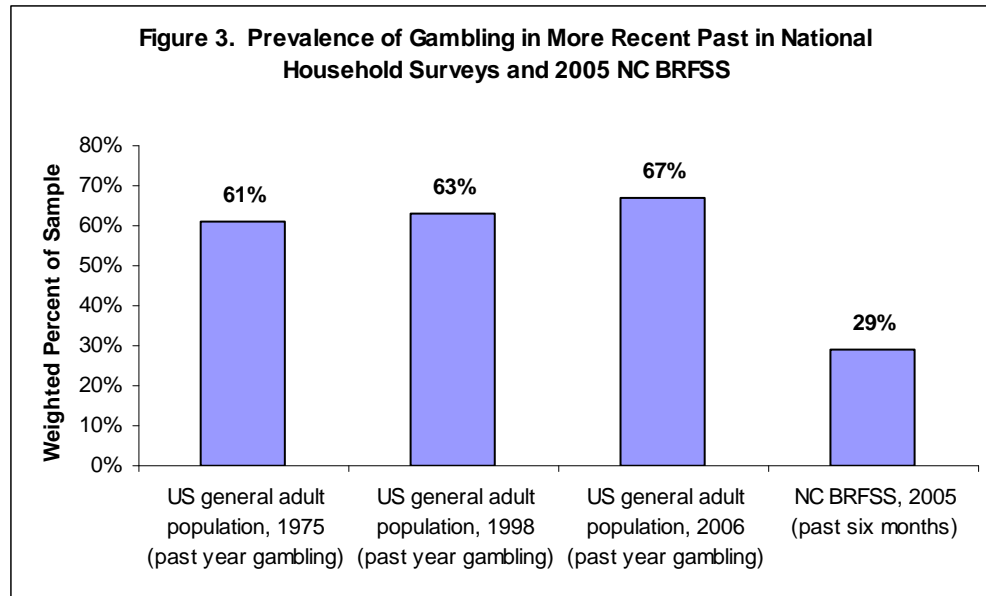


NC BRFSS, 2005; Kallick, Suits, Dielman, and Hybels, 1976; Shaffer, Hall, and Vander Bilt, 1997; NORC, 1999

Prevalence of Gambling in More Recent Past in National Household Surveys and 2005 NC BRFSS

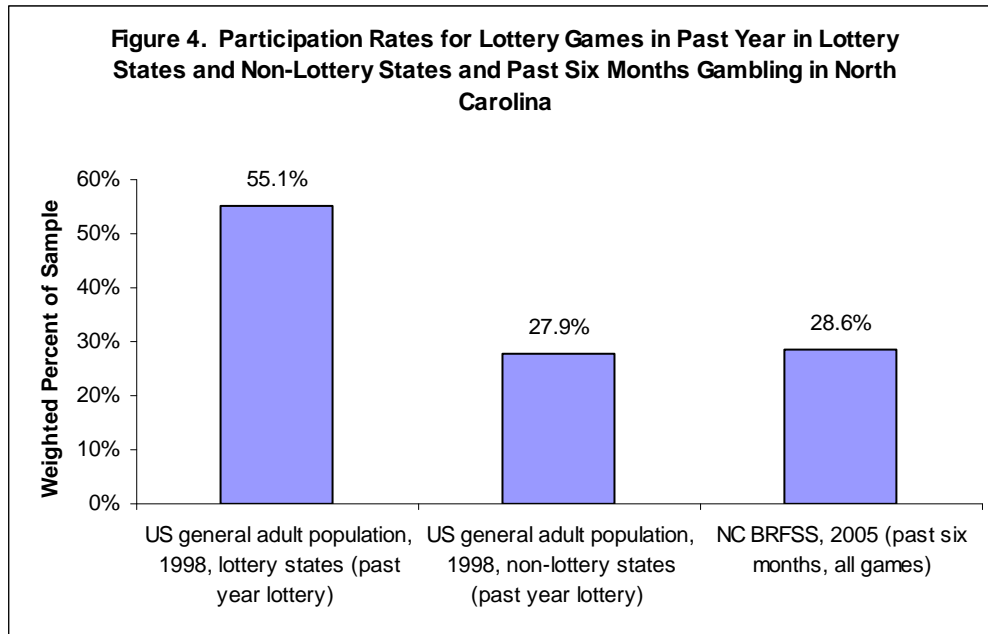
Gambling in the recent past is most commonly measured as gambling in the past year although gambling in the past six months, and gambling in the past three months have also been used in some studies. The NC gambling study chose the shorter time period based on the assumption that a shorter recall period would yield greater accuracy in the reporting of the frequency of and the amount expended in gambling (Figure 3 as shown on the next page). Other studies, including the US/Canada Study cited above, have used the six-month and three-month gambling rates and used them as proxies for the annual rate with the caution that the figure derived from the shorter time periods may be conservative estimates of the past-year gambling rate (Shafer, Hall, and Vander Bilt, 1997). As with lifetime gambling, the prevalence for gambling in the past six months is much lower among North Carolina adults compared to the annual rates reported for the 1975 and 1998 national household surveys (Shafer, Hall, and Vander Bilt, 1997; NORC, 1999) on gambling and a telephone survey of a nationally representative random sample of 2,250 adults conducted by the Pew Research Center (2006). A primary reason for the large disparity may be that the national surveys include states where the lottery has been in operation for some time, where exposure to gambling is greater, and where opportunities for gambling are more readily accessible.

The US/Canada Study did not provide prevalence of gambling in the past year for all forms of gambling.



NC BRFSS, 2005; Kallick, Suits, Dielman, and Hybels, 1976; Shaffer, Hall, and Vander Bilt, 1997; NORC, 1999

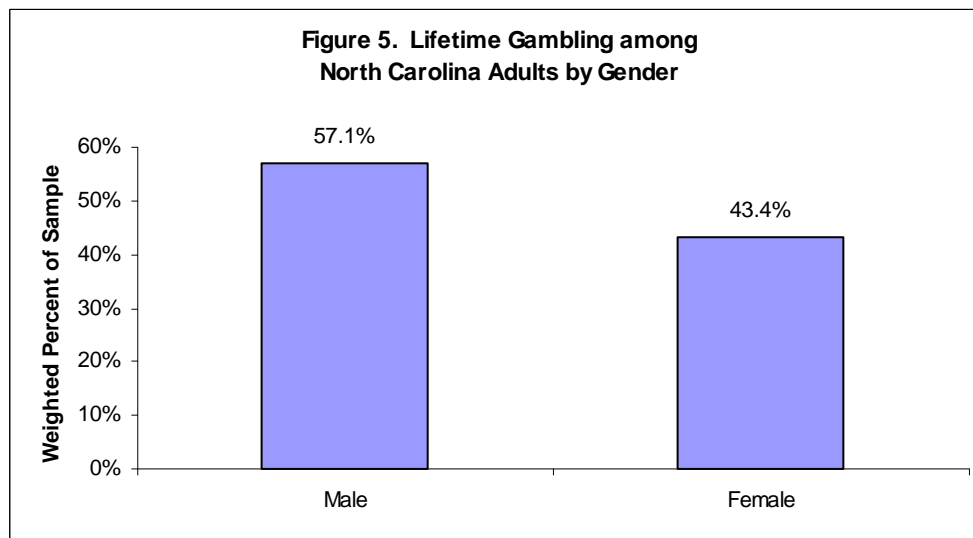
The gambling estimates in North Carolina may be more comparable to non-lottery states (Figure 4 as shown on the next page). A Duke University study (Clodfelter, Cook, Edell, and Moore, 1999) on state lotteries for the National Gambling Impact Study Commission analyzed data from the 1998 household survey to compare lottery with non-lottery states. The study found a large differential in the participation rates for lottery games between lottery states and non-lottery states. The NC estimates for gambling in the past six months closely approximates the lottery participation rate in non-lottery states. Again, caution should be exercised in the comparison of these estimates as the Duke University study applies to lottery games played in the past year, whereas the NC household survey included all games played in the past month. But the 1998 survey did report that lottery was the most common form of gambling played by 52% of the adult general population followed by casino gambling, played by 29% (NORC, 1998). Taking these considerations into account, the participation estimate for lottery in North Carolina may be consistent with the estimates in non-lottery states.



NC BRFSS, 2005

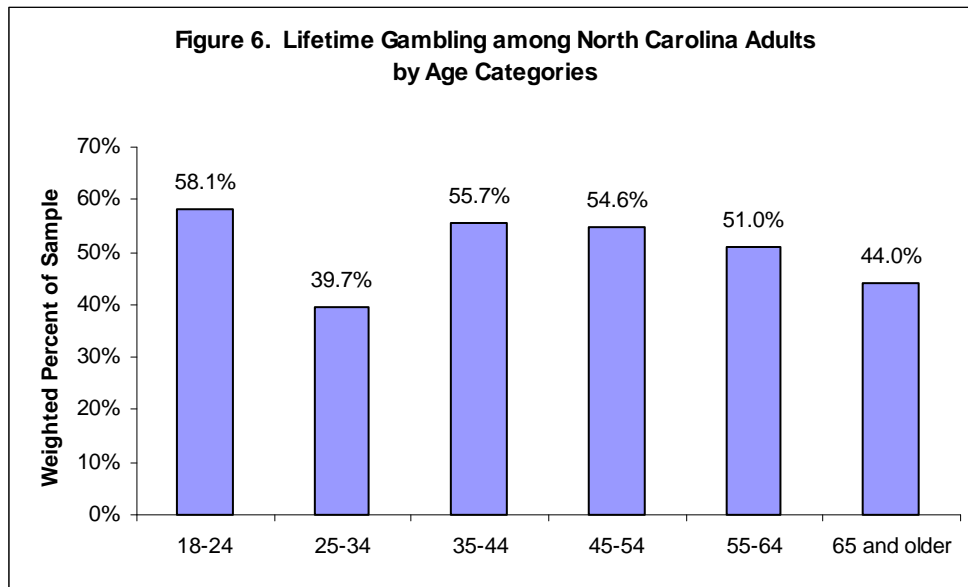
Demographic Correlates of Lifetime Gambling

Gender. As shown in Figure 5 below, men gambled more than women. The prevalence of lifetime gambling among men was 57.1% whereas the rate among women was 43.4%. This finding is practically universal in the gambling studies cited in this report (Kallick, Suits, Dielman, and Hybels, 1976; Clotfelter, C.T., Cook, P. J., Edell, J.A. & Moore, M., 1999; Shaffer, H.J., Hall, M.N. and Vander Bilt, J, 1999; NORC, 1999).



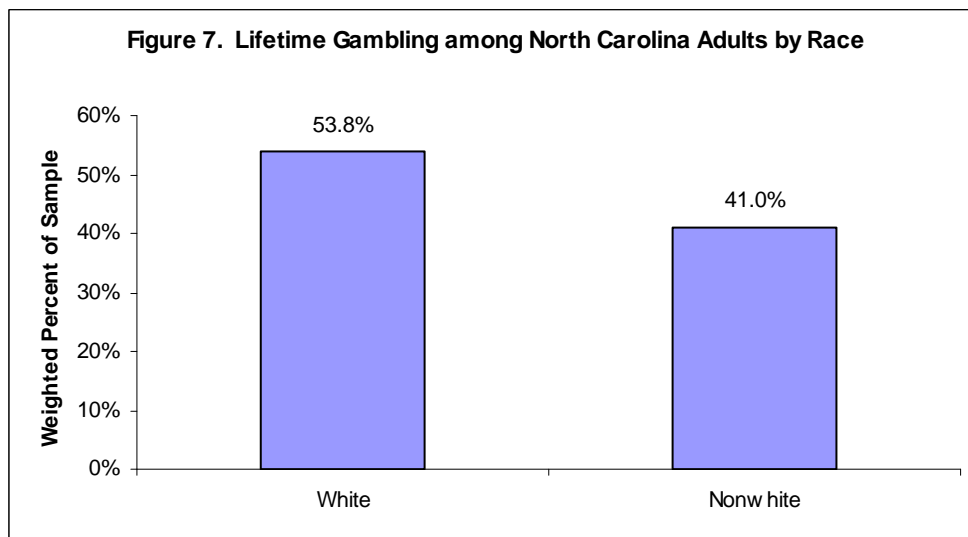
NC BRFSS, 2005

Age. As shown in Figure 6 below, lifetime gambling generally declined with age. It was highest for the age range 18-24 and showed a gradual decrease in the older age groups with one exception – those aged 25-34 gambled the least.



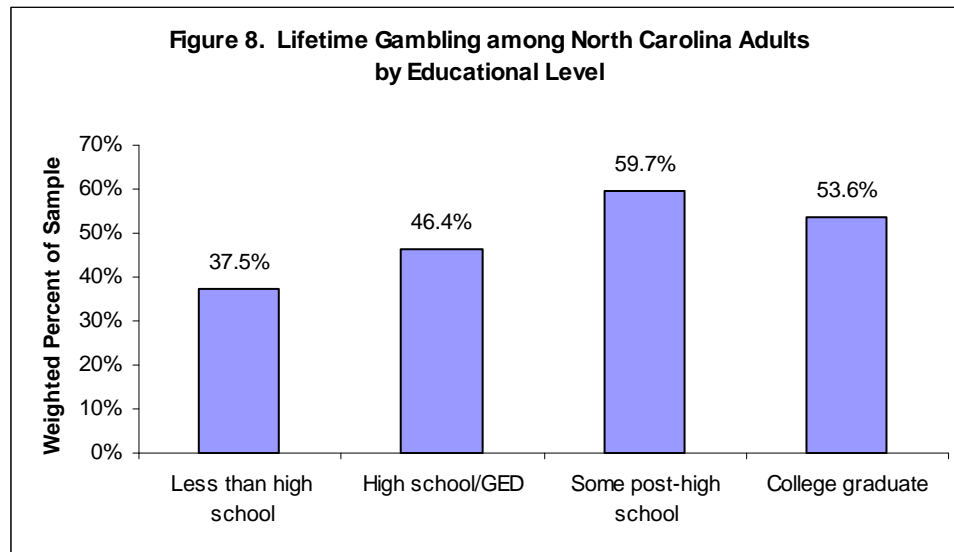
NC BRFSS, 2005

Race. As shown in Figure 7 below, in North Carolina, whites gambled more than non-whites. None of the three major national gambling studies reported their findings by race for lifetime gambling.



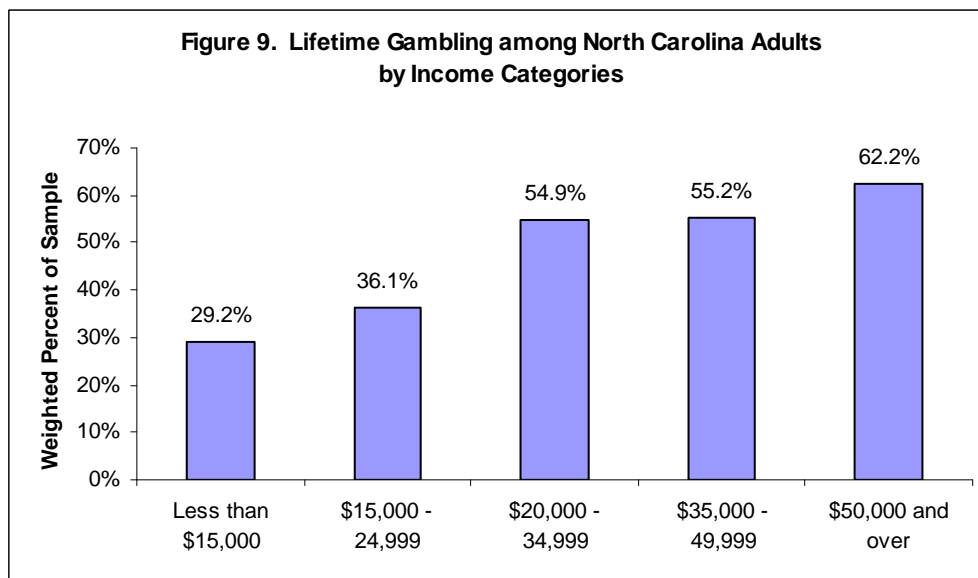
NC BRFSS, 2005

Education. In general, lifetime gambling tended to be more prevalent among those at higher educational levels, as shown in Figure 8 below. This finding is consistent with the 1998 household survey (NORC, 1999).



NC BRFS, 2005

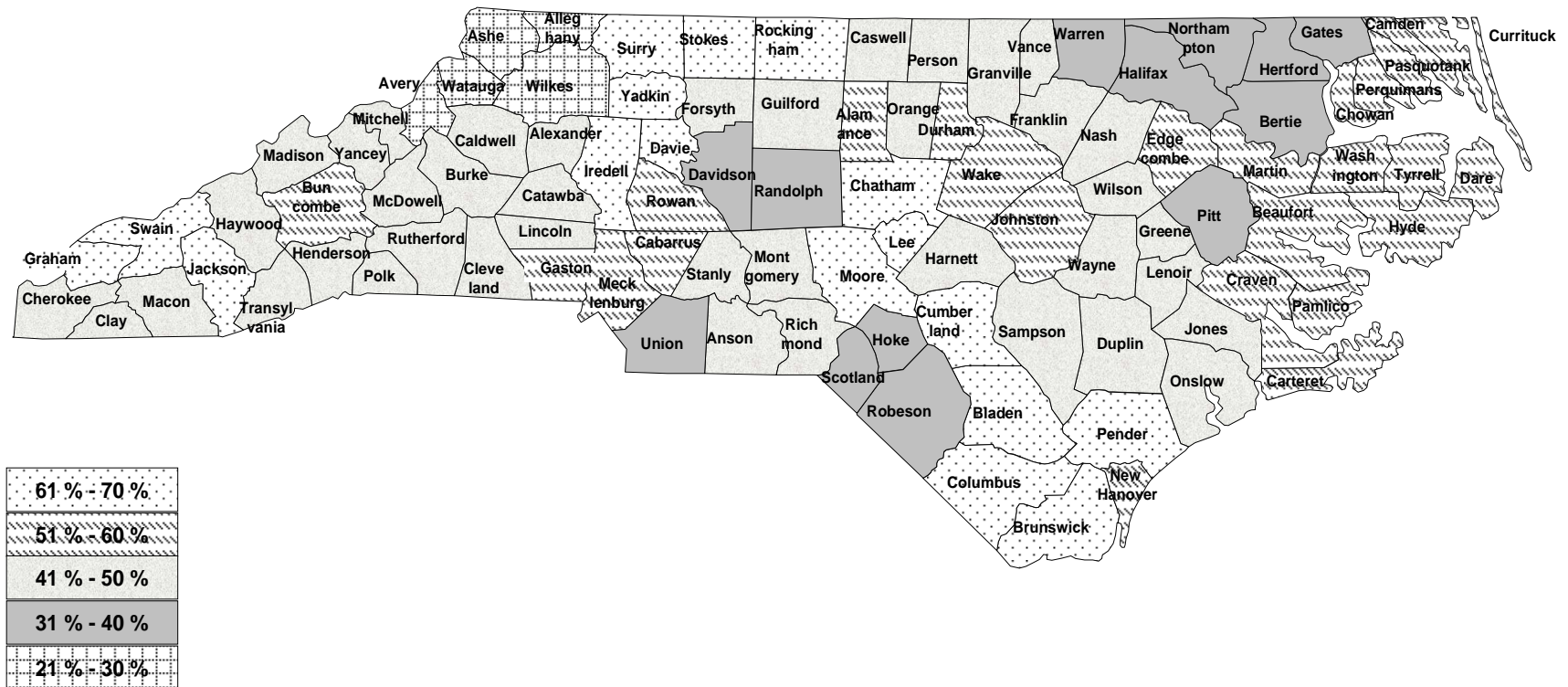
Income. As shown in Figure 9 below, the prevalence of lifetime gambling increases with household income. Those who had higher annual household incomes gambled more, which is a finding that is again consistent with the 1998 household survey (NORC, 1999).



NC BRFS, 2005

Geographic Distribution. Lifetime gambling prevalence varied by counties, as shown in Figure 10 (next page). Wide variation exists, counties in the Northwest show lowest prevalence of gambling whereas counties in the extreme Southeast show highest lifetime gambling prevalence. Differences in gambling prevalence by county of residence will be the subject of future study.

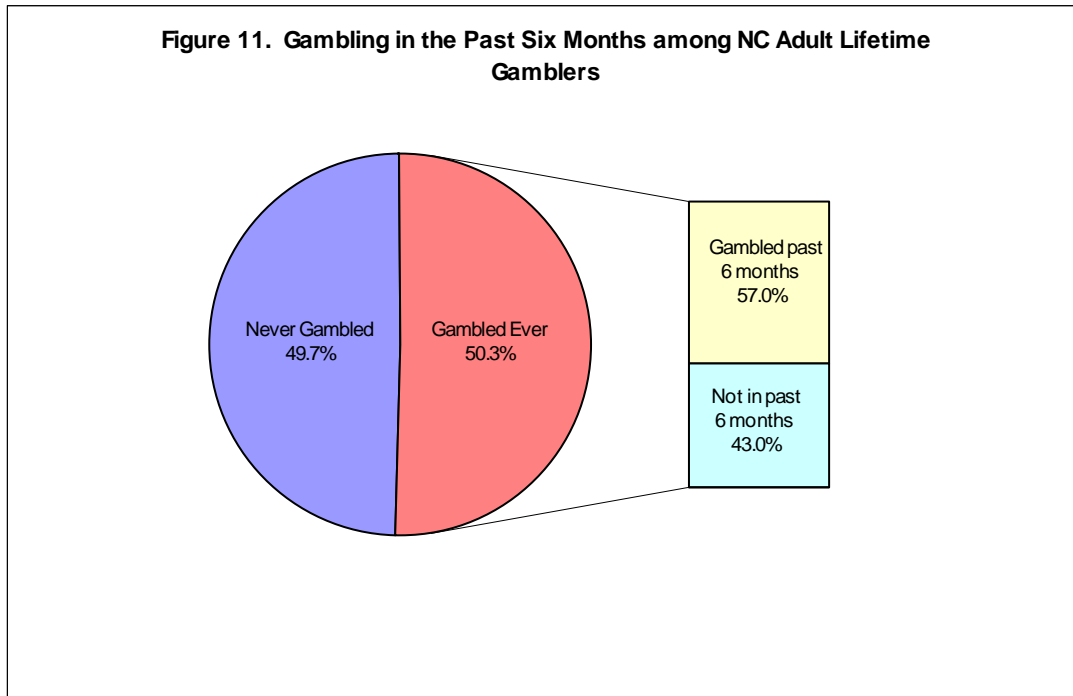
Figure 10. Lifetime Gambling, by Counties



Gambling in the Past Six Months among North Carolina Lifetime Gamblers

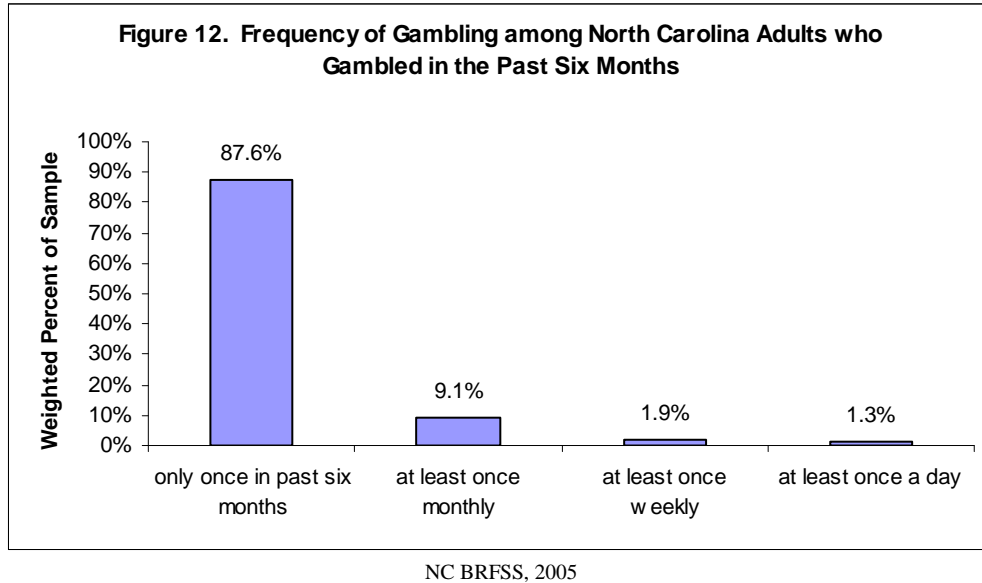
Analysis of the frequency, pattern, and amounts expended in gambling is based on the population who gambled ever or who gambled in the past six months rather than on the total population. Because the denominator used in the analyses of past six months data is smaller than the denominator (total population) used for lifetime gambling, the estimates tend to be higher than the estimates obtained in the calculation of lifetime prevalence estimates.

As depicted in Figure 11, about half of the total population of adult North Carolinians gambled in their lifetime. Not all who gambled played in the past six months. Of the total population of lifetime gamblers, 57 % gambled in the past six months.

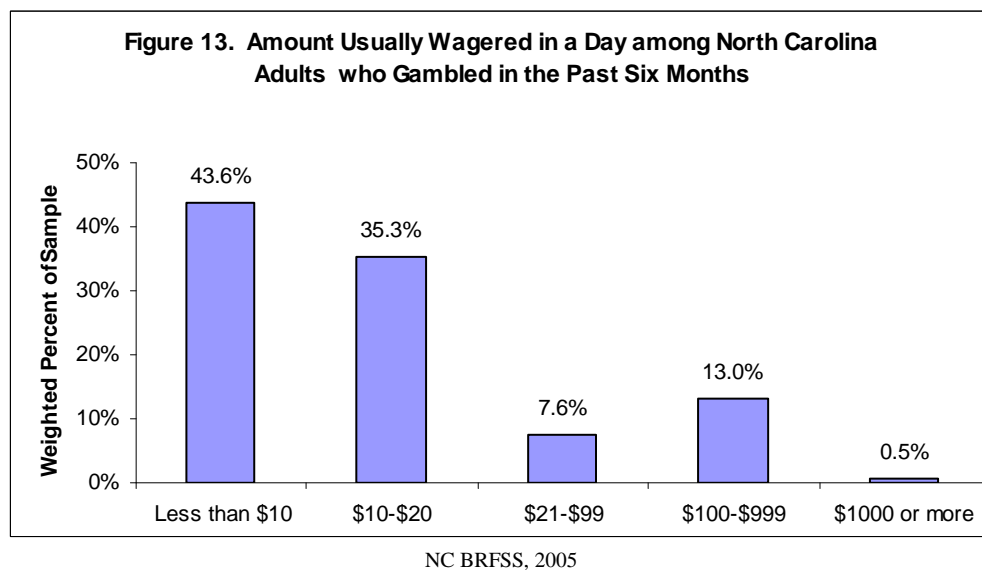


NC BRFSS, 2005

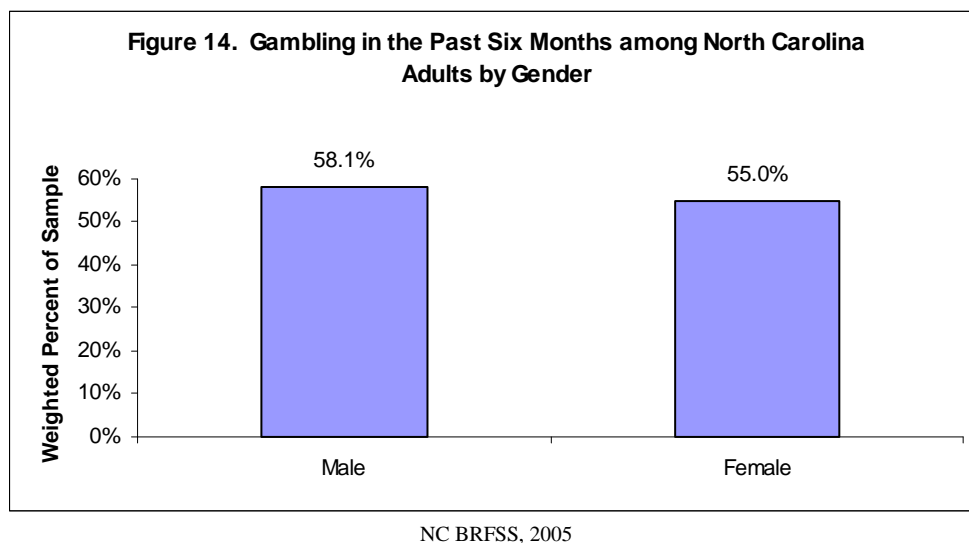
Frequency of Gambling in the Past Six Months. As seen in Figure 12, among those who gambled in the past six months, most gambled only once in the past six months; 1.3 % gambled at least once daily while 1.9 % gambled at least once per week.



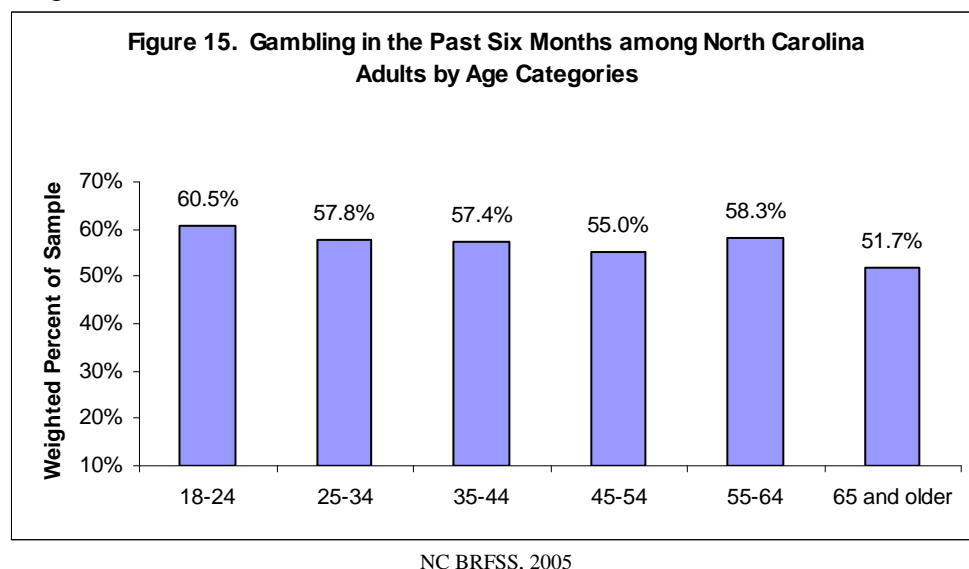
Amount Gambled in the Past Six Months. The majority of those who gambled in the past six months typically spent \$20 or less on the day that they played for money (Figure 13).



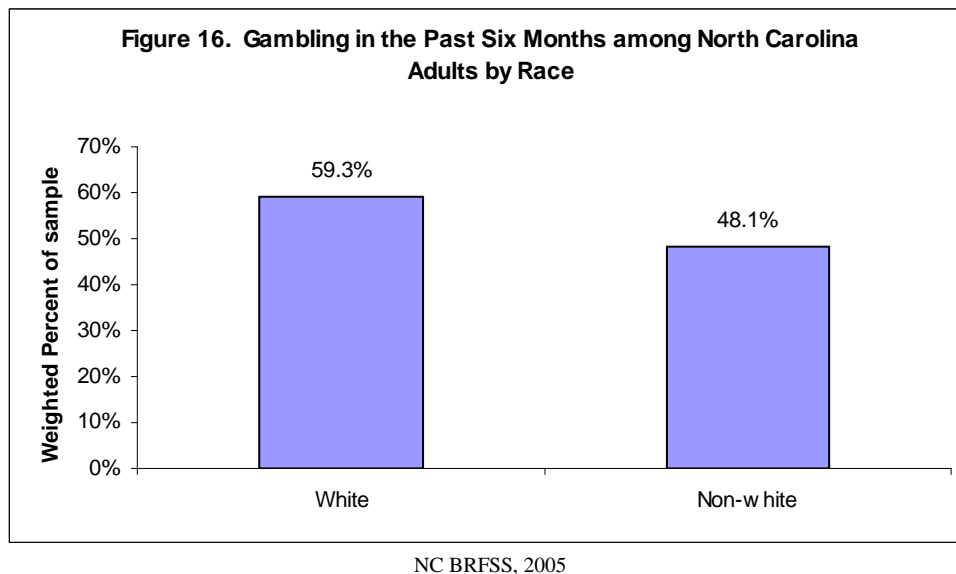
Gender. As with lifetime gambling, men gambled more than women in the six month period prior to the interviews (Figure 14). But the differential (3%) between the percentages of men and women who gamble in the past year or in the past six months is narrower than the gender differential for lifetime gambling (14%), a finding that is also reported for past year gambling in the two US household surveys, (Kallick, Suits, Dielman, and Hybels, 1976; NORC, 1999).



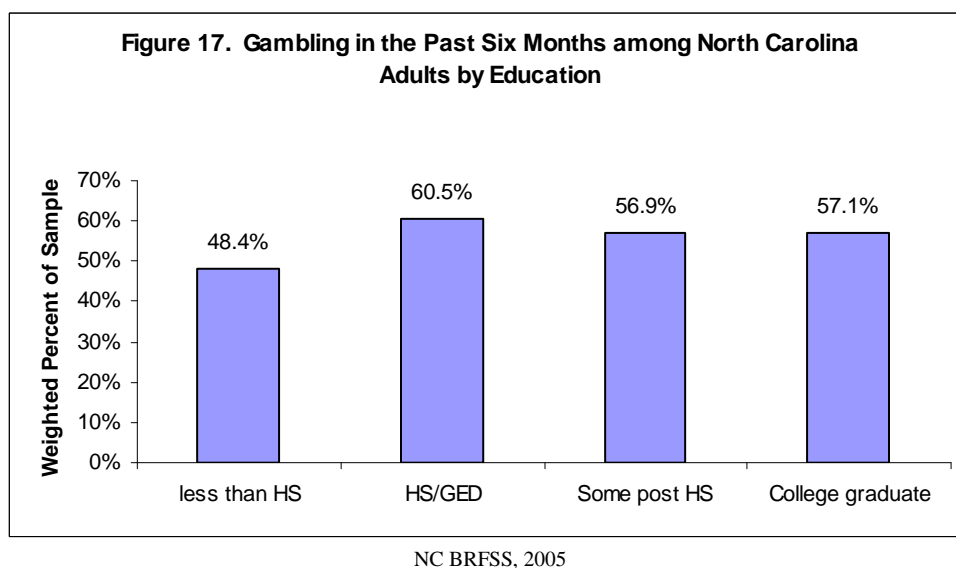
Age. As shown in Figure 15 below, gambling in the past six months typically decreased with age among those who gambled in the past six months, with the exception of the 55-64 group. The three US household surveys exhibit a similar pattern of a decline associated with age (Kallick, Suits, Dielman, and Hybels, 1976; NORC, 1999; Pew Research Center, 2006) for past year gambling.



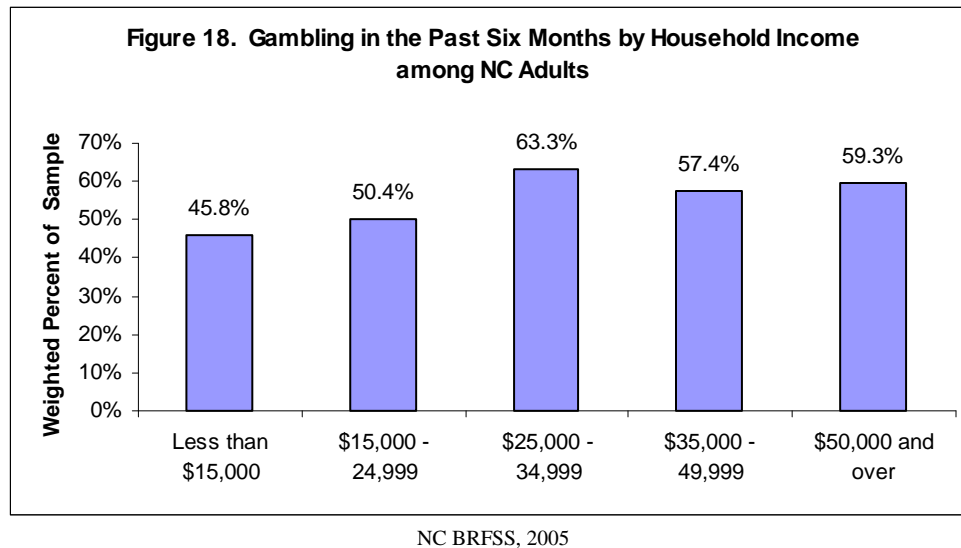
Race. As shown in Figure 16 below, whites generally gambled more than non-whites in the past six months, a finding that conforms to the Pew Research Center Report (2006).



Education. As shown in Figure 17 below, those who did not graduate from high school or have a GED gambled the least in the past six months. This was confirmed by the Pew Center Report (2006), which showed that high school graduates or adults in lower educational levels gambled less than those with some college education.



Income. As shown in Figure 18 below, those whose annual household incomes were lower than \$25,000 gambled less than those with higher annual household incomes, a finding that is consistent with the finding on income released by the Pew Research Center (2006).



Conclusion

Most of the adult population in North Carolina who gamble recreationally apparently experience few, if any, significant negative effects related to their gambling. The majority of those who gambled in the past six months gambled only once in the specified period and the amounts typically wagered were minimal. Unfortunately, about 2.1% of the total population or about 140,131 adults gamble in ways that potentially harm themselves, their families, or their communities.

Exposure to and availability of gambling opportunities are associated with higher participation rates. With the introduction of the lottery in North Carolina, the current prevalence for gambling will likely increase to more closely approximate the prevalence seen in states that have lottery games. In anticipation of the increase in gambling addiction, the North Carolina Legislature has allocated funds for the prevention and education, outreach and treatment of problem gambling. The costs for gambling can be high, not only for individuals, but for families and society as large. Problem gamblers experience physical and psychological issues and have significant rates of depression, substance abuse, and suicidal ideation. Family members often experience similar physical and psychological stress. Costs to social service agencies, mental health centers, the criminal justice system, creditors, and employers can be substantial (NORC, 1999). The annual cost for pathological and problem gambling was placed at \$5 billion for 1998 (NORC, 1999). The amount was derived from economic factors such as job loss, unemployment and welfare benefits. The emotional consequences of gambling on the individual, the family, and society are incalculable.

The first step in dealing with the expected increase in gambling addiction has been to determine the number of individuals who may be in need of assistance for problem gambling. The next

step consists of the development of a range of services for individuals and family members affected by problem gambling. This report and future efforts based on the gambling study that the Division of Mental Health, Developmental Disabilities and Substance Abuse Services has undertaken will document the impact of gambling and will contribute to the formulation of policy and the planning of programs to respond to this problem.

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Appendix 1

NC Module 22: Gambling Behaviors (December 2005)

22.1 Have you ever played games for money, such as casino gambling, scratch card games, video poker or the lottery?

Interviewer NOTE: This also includes riverboat gambling, sports betting, bingo, horse or dog racing, slot machines, and internet gambling.

1. Yes
2. No [**Go to Closing**]
7. Don't know/Not sure [**Go to Closing**]
9. Refused [**Go to Closing**]

22.2. In the past 6 months, how often have you played any games for money?

Interviewer NOTE: If more than one type of game played, Say: "Consider all the games you've played in the last 6 months."

- ___Enter value
- 6__Times in last 6 months – if less than once/month
(ex:601=once in last 6 months)
- 1__Times per Day (ex: 101 = once a day)
- 2__Times per Week (ex: 201 = once a week)
- 3__Times per Month (ex: 301 = once a month)

22.3 How much money do you usually wager on a day when you play for money?

____Dollars (for \$1 or less enter 0001)

- 6666 If more than \$5000
- 7777 Don't know/Not sure
- 8888 None
- 9999 Refused

22.4 Do you sometimes gamble (*or play for money*) more than you think you should?

1. Yes
2. No
7. Don't know/Not sure
9. Refused

BRFSS January – December 2007 Questions

22.1 Have you ever played games for money, such as casino gambling, scratch card games, video poker or the lottery?

Interviewer NOTE: This also includes riverboat gambling, sports betting, bingo, horse or dog racing, slot machines, and internet gambling.

1. Yes
2. No [**Go to Closing**]
7. Don't know/Not sure [**Go to Closing**]
9. Refused [**Go to Closing**]

22.2. In the past 6 months, how often have you played any games for money?

Interviewer NOTE: If more than one type of game played, Say: "Consider all the games you've played in the last 6 months."

- ___Enter value
- 6__Times in last 6 months – if less than once/month
(ex:601=once in last 6 months)
- 1__Times per Day (ex: 101 = once a day)
- 2__Times per Week (ex: 201 = once a week)
- 3__Times per Month (ex: 301 = once a month)

22.3 How much money do you usually wager on a day when you play for money?

_____Dollars (for \$1 or less enter 0001)

- 6666 If more than \$5000
- 7777 Don't know/Not sure
- 8888 None
- 9999 Refused

22.4 Do you sometimes gamble (*or play for money*) more than you think you should?

1. Yes
2. No
7. Don't know/Not sure
9. Refused

Additional question to the 2007 BRFSS questionnaire: Have you purchased a lottery ticket or scratch card since the establishment and operation of the North Carolina State Lottery?

Appendix 2. Characteristics of the December and Full Year Samples

	Unweighted Number	December Sample Unweighted %	December Sample Weighted %	Full Sample Weighted %
Total	1,367	100.0	100.0	100.0
Sex				
Males	520	38.0	50.5	48.5
Females	847	62.0	49.5	51.5
Age				
18-24	60	4.4	13.1	13.1
25-34	200	14.6	19.7	18.9
35-44	257	18.8	20.5	19.9
45-54	299	21.9	19.1	18.0
55-64	244	17.9	12.8	13.5
65 and older	307	22.5	14.9	16.3
Race				
White	1,034	75.6	73.8	72.5
African American	226	16.5	15.6	17.7
Asian	5	0.4	0.6	0.9
American Indian	30	2.2	1.6	1.3
Other Minorities	69	5.0	8.2	7.2
Unknown/Refused	3	0.2	0.2	0.3
Hispanic Origin				
Yes	70	5.1	8.4	8.9
No	1,295	94.7	91.4	91.0
Unknown/Refused	2	0.2	0.2	0.1
Education				
Less than HS	199	14.6	17.4	17.3
High school/GED	403	29.5	28.0	29.5
Some post- HS	362	26.5	24.9	24.4
College graduate	403	29.5	29.7	28.7
Household Income				
Less than \$15,000	153	11.2	8.1	9.8
\$15,000 – 24,999	246	18.0	19.0	18.8
\$25,000 – 34,999	165	12.1	11.8	12.3
\$35,000 – 49,999	197	14.4	13.6	13.3
\$50,000 and over	423	30.9	33.1	31.4
Unknown/Refused	183	13.4	14.4	14.9

Appendix 3. Lifetime Gambling (Played for Money Ever)

Characteristics	N	Weighted %	95% Confidence Interval
Total	1,359	50.3	46.6 - 54.0
Gender			
Male	517	57.1	51.3 - 62.3
Female	842	43.4	39.0 - 47.7
Age			
18-24	359	58.1	42.8 - 73.4
25-34	198	39.7	31.3 - 48.1
35-44	255	55.7	48.4 - 63.0
45-54	296	54.6	47.5 - 61.7
55-64	243	51.0	43.4 - 58.6
65 and older	307	44.0	37.5 - 50.5
Race			
Whites	1,018	53.8	49.7 - 57.9
Non-whites	341	41.0	33.0 - 49.1
Education			
Less than HS	199	37.5	25.6 - 49.5
HS/GED	399	46.5	39.9 - 53.1
Some post HS	362	59.7	53.2 - 66.1
College graduate	399	53.6	47.2 - 60.1
Household Income			
Less than \$15,000	152	29.2	19.5 - 38.9
\$15,000 – 24,999	245	36.1	26.7 - 45.4
\$25,000 – 34,999	164	54.9	43.6 - 66.3
\$35,000 – 49,999	197	55.2	46.6 - 63.7
\$50,000 and over	421	62.2	56.7 - 67.8

Appendix 4. Gambling in the Past Six Months

Characteristics	N	Weighted %	95% Confidence Interval
Total	655	56.8	51.4 - 62.1
Gender			
Male	298	58.1	50.2 - 66.0
Female	357	55.0	48.3 - 61.7
Age			
18-24	30	60.5	37.3 - 83.6
25-34	92	57.8	46.0 - 69.6
35-44	139	57.4	47.5 - 67.3
45-54	145	55.0	44.5 - 65.5
55-64	124	58.3	48.0 - 68.7
65 and older	125	51.7	41.5 - 61.8
Race			
White	520	59.3	53.8 - 64.8
Non-whites	135	48.1	34.8 - 61.5
Education			
Less than HS	59	48.4	25.9 - 70.9
HS/GED	184	60.5	51.3 - 69.6
Some post HS	202	56.9	48.4 - 65.3
College graduate	210	57.1	48.8 - 65.5
Household Income			
Less than \$15,000	46	45.8	19.5 - 38.9
\$15,000 - 24,999	89	50.4	26.7 - 45.4
\$25,000 - 34,999	85	63.3	43.6 - 66.3
\$35,000 - 49,999	100	57.4	46.6 - 63.7
\$50,000 and over	263	59.3	56.7 - 67.8

**Appendix 5. Problem Gambling Among Those Playing for Money
in the Past Six Months**

Characteristics	N	Weighted %	95% Confidence Interval
Total	355	5.8	2.3 - 9.4
Gender			
Male	163	5.6	0.4 - 10.8
Female	192	6.1	1.6 - 10.6
Age			
18-24	19	8.2	-5.5 - 26.6
25-34	53	3.4	-0.9 - 12.3
35-44	81	3.0	-1.1 - 10.7
45-54	81	3.7	-0.5 - 14.1
55-64	62	1.9	-1.2 - 6.1
65 and older	59	2.5	-1.5 - 8.2
Race			
White	284	4.3	1.5 - 7.1
Non-whites	71	12.4	-1.2 - 26.1
Education			
Less than HS	31	1.9	-1.9 - 5.8
HS/GED	102	10.6	0.3 - 21.0
Some post HS	105	2.7	-0.6 - 6.0
College graduate	117	6.1	0.5 - 11.7
Household Income			
Less than \$15,000	21	0.0	0.0 - 0.0
\$15,000 – 24,999	47	7.8	0.0 - 15.7
\$25,000 – 34,999	46	3.1	1.5 - 7.7
\$35,000 – 49,999	49	4.8	2.2 - 11.7
\$50,000 and over	159	4.4	0.1 - 8.6